

**INCREASED ULTRA WIDEBAND (UWB) USER CAPACITY TRANSMITTER
UTILIZING TIME AND FREQUENCY REUSE APPROACHES**

ABSTRACT OF THE DISCLOSURE

An ultra wideband (UWB) communication system and method for its use, allowing multiple users to communicate with the system without significant interference. The system includes multiple element antenna array, through which UWB pulses are transmitted to selected multiple users, by means of a selected combination of spatial multiplexing, frequency reuse and time slot reuse.